

What is claimed is:

1. A method of counteracting flow induced forces in a valve assembly comprising a valve and a valve body, the valve body including an axial valve chamber and a radial passage, the valve being translatable in the axial valve chamber, comprising:
 - pressurizing fluid in the axial passage to a pressure greater than the radial passage;
 - controlling fluid flow from an axial valve chamber radially outwardly to a radial passage with the valve, the controlling of fluid causing an axial flow induced force to develop across the valve;
 - restricting the fluid flow from the axial valve chamber to the radial passage with a first restriction between the valve and the valve body;
 - restricting the restricted fluid flow with a second restriction between the valve and the valve body radially outward of the first restriction, thereby forming an intermediate pressure region between the first and second restrictions, the intermediate pressure region having a fluid pressure between that of the axial valve chamber and the radial passage; and
 - applying a counteracting axial force to the valve with the intermediate pressure region acting on the valve, the counteracting axial force counteracting the axial force of the axial flow induced force.
2. The method of claim 1, wherein the valve is movable between open and closed positions for permitting and preventing fluid flow between the first and second flow passages, respectively, further comprising:
 - cracking the valve open from the closed position at a cracking point for the valve; and
 - selectively pre-sizing the second restriction greater than the first restriction relative to the axial flow induced force at the cracking point such that the counteracting force opposes substantially between 50% and 130% of the axial flow induced force at the cracking point.
3. The method of claim 1 further comprising:
 - simultaneously decreasing the magnitude of the axial flow induced force and the counteracting force as the valve continues to open from the closed position to the open

position by increasing the size of the first and second restrictions in unison, wherein the counteracting force opposes substantially between 50 % and 130% of the axial flow induced force at all valve positions between the cracking point and a position of the valve wherein the axial flow induced force is one half of the axial flow induced force at the cracking point.

4. The method of claim 2 further comprising selectively profiling a radially extending surface of the valve between the first and second restrictions.

5. The method of claim 1 further comprising:
proportionally increasing the size of the first and second restrictions in unison.

6. The method of claim 1 further comprising translating the valve to a fully open position wherein the size of the second restriction is between 1.1 and 1.5 times of the first restriction.

7. The method of claim 1 further comprising reciprocating the valve between two positions using a solenoid to move the valve one direction and a return spring to move the valve a second direction opposite said first direction.

8. The method of claim 1 wherein the first restriction and the second restriction are separated by an axial distance of between 0 and 10 millimeters and a radial distance of between 0 and 3 millimeters.

9. The method of claim 1 wherein the step of restricting at the first restriction comprises metering the fluid flow, wherein the first restriction is smaller than the second restriction, the first restriction increasing and decreasing in unison with the second restriction as the valve linearly translates.

10. The method of claim 1 further comprising guiding the valve linearly with a first and second lands, the first and second lands being spaced apart and sliding against

the axial valve chamber, the first land having the first and second restrictions.